

NON-PUBLIC?: N
ACCESSION #: 8810190211
LICENSEE EVENT REPORT (LER)

FACILITY NAME: Braidwood 2 PAGE: 1 OF 3

DOCKET NUMBER: 05000457

TITLE: Rx Trip Due to Loose Connections in 2PM05J (Source Range Hi Flux)
EVENT DATE: 09/19/88 LER #: 88-022-00 REPORT DATE: 10/11/88

OPERATING MODE: 2 POWER LEVEL: 003

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR
SECTION
50.73(a)(2)(iv)
50.72

LICENSEE CONTACT FOR THIS LER:
NAME: Freddie Romas, Technical Staff Engineer TELEPHONE: 815 458-2801
Ext. 2487

COMPONENT FAILURE DESCRIPTION:
CAUSE: SYSTEM: COMPONENT: MANUFACTURER:
REPORTABLE TO NPRDS:

SUPPLEMENTAL REPORT EXPECTED: no

ABSTRACT:

At 1800 on September 19, 1988 a reactor trip occurred due to source range channel N31 exceeding its setpoint of 1.0×10^5 counts per second (CPS). "A" reactor trip breaker opened automatically. The Nuclear Station Operator initiated a manual trip to open the "B" reactor trip breaker. The cause of this event was due to a loose connection in main control room panel 2PM05J, which allowed channel M-31 to re-energize. Since reactor power was approximately 3%, the reactor trip occurred. Subsequent investigation revealed that an actuation had only occurred on Train "A" and no failure of Train "B" actually occurred. The investigation revealed loose connections at the back of 2PM05J which were associated with the various Nuclear Instrumentation System blocking functions. These connections were tightened to prevent any further breaks in the blocking circuits. Additional terminal strips were checked for loose connections on both units. There have been no previous occurrences of loose connections in the source range resulting in a reactor trip.

END OF ABSTRACT

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A. PLANT CONDITIONS PRIOR TO EVENT:

Unit: Braidwood 2; Event Date: September 19, 1988; Event Time: 1800;

Reactor Mode: 2; Mode Name: Startup; Power Level:3%;

RCS AB! Temperature/Pressure: 557 degrees F/2240 psig

B. DESCRIPTION OF EVENT:

There were no systems or components inoperable at the beginning of the event which contributed to the severity of the event.

At 1800 on September 19, 1988 a reactor trip occurred on Unit 2. First out annunciator. "Sr High Flux Rx Trip". illuminated at the time of the event. Further investigation revealed that source range channel N31 (IG) exceeded its setpoint of 1.0xE5 counts per second (CPS). "A" reactor trip breaker opened automatically. "B" reactor trip breaker did not open automatically. Unit 2 Nuclear Station Operator (NSO) initiated a manual trip to open the "B" reactor trip breaker. Subsequent investigation revealed that an actuation had only occurred on Train "A" and no failure of Train "B" actually occurred.

Operator actions neither increased or decreased the severity of the event.

The appropriate NRC notification via the ENS phone system was made at 1916 on September 19, 1988, pursuant to 10CFR50.72(b)(2)(ii).

This event is being reported pursuant to 10CFR50.73(a)(2)(iv) - Any event or condition that resulted in manual or automatic actuation of any engineered safety feature, including the reactor protection system.

C. CAUSE OF EVENT:

The cause of this event was due to a loose connection in main control room panel 2PM05J. Section B2, Part 11, Riser A-2, Terminals 56-1 and 56-2. This loose connection caused a break in the Train "A" source range reset circuit which allowed the source range channel high flux reactor trip associated with channel N-31 to become unblocked. This allowed channel N-31 to re-energize. Since reactor power was approximately 3% the 1.0XES CPS setpoint was exceeded and the reactor trip occurred. The loose connection was disturbed when a Nuclear Station Operator (NSO), license reactor operator, was changing the paper on a nearby chart recorder associated with the volume control tank level, LR-185.

This effect was duplicated during troubleshooting of the source range block circuit. N-32 did not energize because the block/reset and high voltage cutout remained functional.

D. SAFETY ANALYSIS:

There was no effect on the plant or public safety. The plant responded per design which is to trip the unit on source range high flux (i.e. 1 out of two coincidence logic). "B" reactor trip breaker did not open automatically because only the Train "A" had its source range unblocked due to loose connections in 2PM05J. Under worst case conditions with the loose connections in 2PM05J being jarred and the plant at 100% power, source range high flux would cause a reactor trip to occur per design.

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E. CORRECTIVE ACTIONS:

The immediate corrective action by the Unit 2 operator was to trip reactor trip breaker "B".

A partial surveillance on Train "A" solid state protection system, 2BwOS 3.1.1-20 was performed to determine if the universal cards associated with the source range block circuits were functional. The surveillance did not reveal any abnormalities with SSPS.

Nuclear Work Request A25642 was written to investigate cause of the source range channel N-31. The investigation revealed loose connections at the back of 2PM05J which were associated with the various Nuclear Instrumentation System blocking functions. These connections were tightened to prevent any further breaks in the blocking circuits.

Additional terminal strips were checked for loose connections on Unit 1 and Unit 2.

F. PREVIOUS OCCURRENCES:

There has been previous occurrence of a reactor trip involving source range monitoring instrumentation. The corrective actions were implemented addressing both root and contributing cause. However, the root cause of this event is different in that loose terminal wiring for the source range Instrumentation was involved. Previous corrective actions are not applicable to this event.

G. COMPONENT FAILURE DATA:

This event was not caused by component failure, nor did any components fail as a

result of this event.

ATTACHMENT #1 OF #8810190211 PAGE 1 OF 1

Commonwealth Edison
Braidwood Nuclear Power Station
Route #1, Box 84
Braceville, Illinois 60407
Telephone 815/458-2801

BW/88-1259

October 13, 1988

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Dear Sir:

The enclosed Licensee Event Report from Braidwood Generating Station is being transmitted to you in accordance with the requirements of 10CFR50.73(a)(2)(iv) which requires a 30 day written report.

This report is number 89-022-00; Docket No. 50-457.

Very truly yours,

R. E. Querio
Station Manager
Braidwood Nuclear Station

REQ/AJS/jab
(7126z)

Enclosure: Licensee Event Report No. 88-022-00

cc: NRC Region III Administrator
NRC Resident Inspector
INPO Record Center
CECo Distribution List

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